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ABSTRACT

The purpose of this study was to determine the effect of two different teaching methods on the attitudes of Texas A&M University students participating in required physical education. Thirteen classes were taught using performance-based instruction, while 15 classes were taught using a traditional method. A two-group posttest design was used with students participating in either golf, fencing, or volleyball. Five instructors each taught the same activity using both methods of instruction. Each student completed the Wear Attitude Scale and a Student Opinionnaire at the end of the 18-week instructional period. Students were scored on general attitude toward physical education, attitude toward the class they were enrolled in, grading fairness, attainment of course objectives, suitability of assigned out-of-class work, class size, availability and value of reference material, and appropriateness of tests to meeting course objectives. Results indicated that performance-based instruction developed a better general attitude toward physical education, as compared to attitudes developed by the traditional teaching method. Volleyball students expressed a lower opinion of performance-based instruction, while fencing and golf students held a better opinion of performance-based instruction than they did of traditional methods. All classes disliked the assigned out-of-class work, which was a part of performance-based instruction. (Author)

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# COMPARISON OF STUDENTS ATTITUDE ON PERFORMANCE BASED AND TRADITIONAL TEACHING METHODS

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By

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In the past sixty years, many patterns of instruction have been tried, and they have achieved moderate success in paralleling Dewey's goals (2). In the past twenty years, the verbal-demonstration pattern of instruction has become the most popular and has been thought to be the most successful in satisfying Dewey's goal. Demonstration in combination with other methods is probably the best and most frequently used procedure for providing students with clear mental pictures of skills to be learned in physical education classes (1). Although the verbal-demonstration pattern of instruction has been the best we have had in transmitting our culture, it has done little in providing for individual differences, and the transformation of our culture.

Performance based instruction is the most recent pattern of instruction to be used by educators. Research has focused upon the learning experiences of the individual student on the premise that physical education becomes more relevant and more easily learned when the student can see the process and structure of the subject matter, and has the opportunity to be actively involved in the learning environment.

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Mager and McCann (7) found that permitting students to follow their own sequence in achieving well defined objectives yields better results than insisting upon teacher-designed learning sequences. Mager (6) indicated that when the minimum acceptable performance for each objective is specified, we have a performance standard to use in assessing instructional programs. McCandless (8) said "individuals acquire capacities to perform different skills and intellectual operations at various periods during development." Edwards and Scannell (3) found that behavioral patterns vary in rate of development for a given individual and may vary substantially from individual to individual. Gustafson (5) in a study of the effects of modular open-block scheduling on student attitudes found that programmed instruction developed positive attitudes found that programmed instruction developed positive attitudes in physical education and increased motor fitness and motor ability. Farrell (4) found that programmed instruction in teaching the forehand and backhand drives in tennis, was superior to the traditional method. Olsen (9) found that by providing classes and teachers with behavioral objectives before instruction can enhance the performance on an achievement test.

For many years, a modified form of performance based instruction has been a part of the organizational pattern of the physical education curriculum. However, at this time, there is little research in the area of physical education that will give support to the method in the affective domain.

Therefore, the purpose of this study was to determine the effect of two different teaching methods on the affective domain

of college students participating in required physical education. The specific problem of this study was to determine and compare the effect of performance based and traditional instruction on general attitude toward physical education, attitude toward the class they were enrolled in, fairness in grading, attainment of specified course objectives, suitability of assigned out-of-class work, suitability of class size, availability and value of reference material, and appropriateness of tests to meeting course objectives.

## Procedure

Twenty-eight activity classes at Texas A&M University were used in this study, fifteen classes were taught by traditional instruction while thirteen classes were taught by performance based instruction. There were 473 students enrolled in classes taught traditionally while 446 students were enrolled in performance based classes. A two group posttest design was used with all students participating in either golf, volleyball, or fencing.

The modules for each activity were built around example modules used at other colleges and universities with changes made to fit the individual differences and resource materials available at Texas A&M University. The level of performance for each task or test was established at the same level that the traditional classes were accepting.

Five instructors were used to teach the twenty-eight classes, each instructor taught the same activity by both methods. There

were two volleyball instructors, two fencing instructors, and one golf instructor. The two instructors teaching the same activity were given inservice training in order to coordinate the methods, materials, and tests that were used for each activity. Each class had two class meetings per week for eighteen weeks.

All classes of the same activity, regardless of the method of instruction, used the same skill and knowledge tests. Each class was also given the Wear Attitude Scale for measuring the students' general attitude toward physical education. Additionally, a student opinionnaire, concerned with the teaching method, was administered and used to evaluate the students attitude toward the two teaching methods.

For the purpose of this study, traditional teaching was defined as the lecture-demonstration-performance method. An activity class taught by this method had planned periods of lecture-demonstration throughout the semester. Each skill was introduced individually with a specific period of time set aside for that skill. The entire class would be drilled in that skill for that specified time. The class would move from skill to skill as a unit. The students were expected to show a proficiency in these skills in a given order. All written and skill tests were administered to all of the students at a given time.

Classes taught by the performance based method, received a course module at the first class meeting. Performance based instruction differs from other organizational patterns in that the curriculum is arranged in a continuous progress sequence so that each

pupil may proceed at their own pace; learner objectives are written in behavioral terms and the means of determining whether performance meets the indicated criterion levels are given to the student before instruction begins; provision for one or more modes of instruction pertinent to the objectives, through which the learning activities may take place, is made; and the accountability for meeting the criteria is placed upon the learner. The students were allowed to demonstrate acceptable proficiency of skills in any order they selected and at any time.

The test-retest method was used to establish reliability. Two classes from each activity, that were not involved in the study, were administered the tests and surveys used in this study. The lowest reliability score found was with the fencing skill test, .80, and the highest reliability score received was with the Wear Attitude Scale, .94.

## Results

There was not a specific level of significance established as acceptable in this study. Any level of significance between .25 and .001 will be reported. Since research in this area is negligible, it was felt that the reader should be presented the results and permitted to establish their own level of significance for this area.

Table 1 presents the mean scores for the Wear Attitude Scale for each activity and for the total number of classes. Comparison of mean scores for all fencing classes indicate that students finishing

a fencing class taught by the performance based method had a better general attitude toward physical education. When comparison of all scores was made, students completing classes which used the performance based method of instruction demonstrated a better general attitude toward physical education.

Table 2 presents the mean score for the student opinionnaire which measured the students' attitude about the teaching method of the specific class that they were just completing. When scores for students enrolled in volleyball are compared, it may be observed that the traditional method created a superior attitude, while scores compared for those students enrolled in fencing, indicated that students liked classes better when taught by the performance based method. When total mean scores were compared, there was not a difference between the attitude of the students taught by the two methods.

Table 3 presents mean scores for questions concerning the fairness of grading. Students enrolled in volleyball considered grading in the traditional classes much more fair than did the students enrolled in volleyball classes taught by performance based methods. Fencing students, however, were much happier with the grading in performanced based classes than in those classes taught by the traditional methods. When total mean scores for each method were compared, there was not a difference between the opinion of the students on fairness of grading.

Table 4 presents the mean scores for questions concerning the attainment of specified course objectives. Students enrolled

in volleyball felt that the traditional method came nearer achieving course objectives than did the performance based method. Fencing students felt that those classes which were taught by performance based method better met the specified course objectives than did the fencing classes taught by the traditional method. When total mean scores for each method were compared, no difference was found between the two methods.

Class size is evaluated in Table 5. Students enrolled in golf felt that the large class size was better handled when the class was taught by the performance based method. When total mean scores for each method are compared, the students felt that the performance based method was more appropriate for the large class size than was the traditional method.

Mean scores on questions concerning the availability and value of reference material are presented in Table 6. Students enrolled in volleyball felt that the reference material was not as suitable for performance based teaching as it was for the traditional method of teaching. When total mean scores for each method were compared, no difference was observed between means.

The mean scores of students' opinion about the suitability of assigned out-of-class work is presented in Table 7. Volleyball students felt that the assigned out-of-class work for the performance based teaching method was not suitable for their activity class. When total scores for the two methods were compared, students expressed a higher opinion about the assigned out-of-class work given in the traditional teaching method than for the performance based method.

Table 8 presents the mean score for questions concerning the appropriateness of tests in meeting course objectives. Fencing students indicated that tests were much more appropriate for classes taught by the performance based methods than they were for classes taught by the traditional method. Golf students felt that tests were more appropriate for classes taught by the traditional method than for classes taught by the performance based method. No difference was observed between total mean scores.

## Discussion

The comparison of these two teaching methods is very difficult due to the many dependent variables that cannot be controlled. The mean scores on the Wear Attitude Scale indicated that the performance based teaching method instilled a better general feeling toward physical education. This is probably a result of the freedom given to the individual. College students are looking for things that may be done in their own way rather than activities in which they simply fall in line, and perform by the numbers.

The result of the student opinionnaire indicated that students enrolled in volleyball did not hold as high opinion of performance based instruction as they did of the traditional method, while students enrolled in fencing held the opposite opinion. Volleyball is a team sport, and in the service program at Texas A&M University, these classes have about forty-eight students enrolled in them. However, class size was not an objection of the students, fairness of grading, meeting

course objectives, availability of reference material, and assigned out-of-class work, were items disliked by volleyball students. The availability of reference material was found inadequate for the large number of students trying to use them. This lack of reference material also affected the difficulty of the assigned out-of-class work. Participation outside of class was limited to intramural participation and a small number of opportunities to observe volleyball on television.

Fencing may be contrasted to volleyball in a number of ways that could explain the opposite opinion of students about teaching method used in each activity. The traditional method of instruction in fencing is a very discipline oriented method. Fencing is also an individual sport which requires only two students to participate. The size of fencing classes are held to about thirty students. This would make the instructor more available to the individual student, and make reference materials easier to use. There was a fencing club which met regularly at which students could participate. Also, there were many tournaments in which the student could participate or observe. These advantages would make it easier for fencing students to obtain a specific grade level which would be more difficult for volleyball students. These things may result in the difference in opinion between the fencing and volleyball students.

Students enrolled in golf generally agreed with fencing students in their opinion concerning the two methods of teaching. This leads to a number of variables that are possibly affecting students attitudes. Fencing and golf are both individual-dual type activities while volleyball

is a team sport. Class size in both fencing and golf are slightly smaller in number than volleyball classes. Opinions concerning reference materials indicated that students under performance based instruction thought these materials were lacking, an area which had been considered a strong point of the service program. The opinion of assigned out-of-class work was very low but related very closely to the opinion concerning reference material as did the opinion concerning the fairness of grading.

These observations could lead to several conclusions. Performance based instruction appears to work better for individual-dual activities, and for classes of large size. When students are given the freedom, and assigned work that requires use of reference materials, the supply of these materials must be greater than the materials needed for traditional methods. It appears that students appreciate the additional freedom allowed in performance based instruction and the allowance made for individual differences.

It would be recommended that a great deal of research be conducted in developing an instrument that will give valid measurement in the affective domain. Performance based instruction should be used for all activity classes, under close supervision, with constant changes made in the modules to improve the method. Learning experiences should not be offered as learning alternatives unless ample opportunity for using these alternatives are present to all students.

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TABLE 1

COMPARISON OF MEAN SCORE ON
WEAR'S ATTITUDE SCALE

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 86.95 | 88.61 | .74 |
| Fencing | 88.56 | 91.15 | 2.18[a] |
| Golf | 89.52 | 90.76 | .87 |
| Total | 88.69 | 89.92 | 2.28[b] |

[a]Significant at the .20 level.
[b]Significant at the .17 level.

TABLE 2

COMPARISON OF MEAN SCORES ON
STUDENT OPINIONNAIRE

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 50.37 | 46.66 | 5.24[a] |
| Fencing | 46.02 | 48.55 | 3.96[b] |
| Golf | 48.22 | 49.90 | .30 |
| Total | 48.20 | 47.93 | .06 |

[a]Significant at the .05 level.
[b]Significant at the .10 level.

TABLE 3

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING FAIRNESS IN GRADING

| Activity | Traditional | BPTM | F |
|---|---|---|---|
| Volleyball | 8.64 | 7.92 | 15.67[a] |
| Fencing | 7.85 | 8.81 | 6.30[b] |
| Golf | 8.66 | 9.15 | .14 |
| Total | 8.38 | 8.45 | .08 |

[a]Significant at the .005 level.
[b]Significant at the .05 level.

TABLE 4

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING THE ATTAINMENT OF SPECIFIED COURSE OBJECTIVES

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 8.61 | 8.23 | 4.33[a] |
| Fencing | 8.47 | 8.75 | 2.63[b] |
| Golf | 8.17 | 8.54 | 1.06 |
| Total | 8.42 | 8.48 | .21 |

[a]Significant at the .075 level.
[b]Significant at the .17 level.

TABLE 5

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING THE SUITABILITY OF CLASS SIZE

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 7.96 | 7.91 | .03 |
| Fencing | 7.14 | 7.96 | 1.41 |
| Golf | 7.32 | 8.57 | 2.40[a] |
| Total | 7.47 | 8.03 | 3.19[b] |

[a]Significant at the .20 level.
[b]Significant at the .075 level.

TABLE 6

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING THE AVAILABILITY AND VALUE OF REFERENCE MATERIAL

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 8.64 | 7.73 | 10.81[a] |
| Fencing | 7.72 | 7.27 | .61 |
| Golf | 7.49 | 8.49 | 1.13 |
| Total | 7.95 | 7.67 | .71 |

[a]Significant at the .01 level.

TABLE 7

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING SUITABILITY OF ASSIGNED OUTSIDE WORK

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 8.52 | 7.16 | 10.24[a] |
| Fencing | 8.00 | 7.63 | .26 |
| Golf | 8.93 | 8.52 | 1.67 |
| Total | 8.48 | 7.55 | 7.56[a] |

[a]Significant at the .025 level.

TABLE 8

COMPARISON OF MEAN SCORES ON OPINIONNAIRE QUESTIONS CONCERNING APPROPRIATENESS OF TESTS TO MEETING COURSE OBJECTIVES

| Activity | Traditional | PBTM | F |
|---|---|---|---|
| Volleyball | 7.94 | 7.71 | .73 |
| Fencing | 6.85 | 8.14 | 12.52[a] |
| Golf | 7.64 | 6.92 | 3.45[b] |
| Total | 7.48 | 7.75 | 1.24 |

[a]Significant at the .01 level.
[b]Significant at the .15 level.